DOCUMENT RESUME

ED 331 805 SP 033 031

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TITLE Differentiated In-Service Education.
PUB DATE Nov 90
NOTE 17p.; Paper presented at the Annual Conference of the National Council of States on Inservice Education (15th, Orlando, FL, November 16-20, 1990).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adult Learning; *Andragogy; Competency Based Teacher Education; Elementary Secondary Education; Individual Differences; *Individualized Instruction; *Inservice Teacher Education; *Learning Modules; Teacher Educators; *Teacher Role; Teachers
IDENTIFIERS Knowles (Malcolm S)

ABSTRACT

The principles of andragogy, as explained by M. S. Knowles, in contrast to pedagogy, provide a frame of reference for a differentiated approach to inservice teacher education. Adults are self-directing and ready to learn when they experience a need to know or do something, are life-, task-, or problem-centered, are motivated by both internal and external forces, and bring with them a variety of life experiences. Adult educators, therefore, become resource persons and facilitators of learning rather than instructors. Teachers entering an inservice program are at different stages of development and have different needs and learning styles. The Individualized Learning Modules (ILM) format, a competency-based model for inservice teacher education, provides ways to respond to both the characteristics of adult learners and the diverse needs of teachers. Each learning module addresses specific topics and is designed to achieve one or more independent objectives. The ILM includes a self-assessment of needs, content delivery, sources for further investigation, individual study guide, collaborative group learning guide, performance products suggestions, log form, and evaluation form. Participants select the modules or units that will meet their individual needs. The design of an inservice program using well-defined learning modules assures flexibility and provides a means for responding to a variety of needs in a context of mutual respect and collaboration. (AMH)

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Differentiated In-Service Education

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National Council of States on Inservice Education
Fifteenth Annual National Conference
November 16-20, 1990
Orlando, Florida

SP 033 031

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Introduction

The need for differentiated inservice education continues to be emphasized by both the literature and on-going research focusing on the effective characteristics of inservice education programs. Lawrence, in conducting an analysis of ninety seven separate, well evaluated studies of inservice education, found that: 1) Programs that have differentiated training experiences for different teachers are more effective; 2) Programs offering teachers opportunities to choose goals and activities are more effective; 3) Self-directed training activities, while, rare, tend to be successful; and 4) Programs that linked the individual activities to a larger organizational effort are also more effective (1974). It is also suggested that the variety of professional and teaching backgrounds and experiences necessarily call for an individual approach to inservice education (Ovando, 1984). The South West Educational Development Laboratory emphasizes the need to provide opportunities to select, adapt and try out professional behaviors (1987). Others refer to personalized training (Harris, 1989) as a means to respond to a broad array of individual needs.

Some approaches to differentiated inservice education that attempt to respond to the diverse needs of participants of inservice programs, as suggested by Harris, are intervisitation, field trips, internships, individual growth plans and coaching (1989). Others are interactive video systems, computer assisted inservice, etc. However, a format that can meet the different needs of individuals in content, depth, nature and pace of inservice, as well as provide opportunities for group interaction and collaboration seems to be needed.

Inservice education, that truly contributes to the development of people must focus on the individual rather than focusing on a problem. However, institutional needs must also be considered so that both the individual and the organization goals are met. In addition, it is relevant to remember that the development and learning of individuals are personal processes. As Harris suggests "it occurs within the individual. It occurs in highly individual ways with unique sequence, timing, and

processes involved."(1989). Furthermore, inservice education needs to be practical and transferable to the participants' teaching practice; therefore, it should provide opportunities for participants to apply the new competencies to their own area of practice (Ovando, 1989). Follow up and support must also be provided.

The purpose of this paper is to present a format which has potential for meeting the different needs of participants of inservice education programs. It will first provide a brief review of the distinguishing assumptions of Andragogy as the study of adult learners. It will also focus on the rationale for a differentiated approach. Next, the Individualized Learning Modules Format, first developed at The University of Utah, and extensively used in preparation programs, will be presented. Some characteristics, components and process of this approach will be described, and a concluding statement will focus on the potential benefits of this format.

Andragogical Assumptions

Learning is a life-long personal pro ,s. Individuals engage in learning experiences, both formal and informal, in different ways and for different purposes. Therefore, it seems relevant to distinguish adults form other learners. Adults have unique characteristics which must be taken into account as we engage in the design, implementation, evaluation and follow-up of inservice education efforts.

One way to better understand the unique features of adults as learners is by reviewing some of the assumptions posited by the Andragogy. According to M.S. Knowles and his associates (1984), Andragogy focuses on how adults learn. It emphasizes the need to enhance adult learning based on the assumptions that adults have a great degree of self-directeness, have experiences that form a knowledge base and learn by solving problems. The adult as a learner, from an andragogical frame of reference (Knowles, 1984), can be distinguished from four perspectives: concept of the learner (adults

are self-directing); readiness to learn (adults become ready to learn when they experience a need to know or do something); orientation to learning (adult are life-centered, task centered, or problem centered); motivation to learn (adults become motivated by internal self-esteem, recognition, self-actualization, in addition to external motivators); and the role of the learner's experience (adults bring with them a diverse volume of experiences).

Other considerations that shed light on the understanding of adults as learners are associated with the role of the adult learner, the role of adult educator, and the program design. Adults as learners play a key role in their learning and they also have some responsibilities. Sinclair and Skerman (1984) suggest that adults need to have the opportunity to initiate the program, to determine personal goals for learning, to select content areas to be covered during the program, to determine the sequence of content, to decide time utilization during program, to choose learning modes and group formats from provided alternatives. In addition, participants bring a wealth of experience and skills to a program. They post their skills and knowledge areas in order to provide a wider range of human resources and to encourage sharing of knowledge. This process in itself is a learning experience for some participants, who may realize that they have personal skills and that their self-esteem is being enhanced (Sinclair and Skerman, 1984). Furthermore, as Green (1984) indicates "Adult learners are responsible for managing their own progress and achieving their own goals through self-direction and evaluation. The responsibility for the outcome of the training program is shared between the learner and instructor", who becomes the facilitator of the process.

The role of adult educators is different than that of other educators or teachers. They become "facilitators" of learning so that they are expected to guide the learning process and to provide support, alternative modes of learning, and resources , rather than to teach the content of the program. As Green (1984) suggests,

"instructors act as a resource person who uses questions to help the learners answer their questions".

In addition, process becomes a central concern when "program design approaches are considered, as opposed to content. Therefore, the goals of a program design based on andragogical principles, as suggested by Sinclair and Skerman, should be:

1. To provide an environment where participants take control of their learning process.

2. To provide a wide range of resources to facilitate the individual learning process.

3. To encourage the development of initiative, autonomy, and risk taking in seeking out learning opportunities.

4. To allow maximum opportunity for participants to achieve individually set goals, relevant to their own learning needs or the needs perceived as important in the system or institution.

5. To maximize the use of participants' own internal motivation and felt need.

6. To provide a design where participants adopt a learning pace and style appropriate to their own background.

7. To provide an environment in which individuals are stimulated to explore new possibilities.

The following comparative analysis attempts to summarize the distinguishing characteristics of adults as learners supported by Andragogy as contrasted with Pedagogy:

Distinguishing Assumptions of Pedagogy and Andragogy

Construct	Pedagogical approach	Andragogical approach
Concept of the learner.	Learners are dependent	Learners are self-directing.
The role of the learner's experience.	Learners enter school with very little or no experience.	Learners enter any educational program with a wide range of experience.
Readiness to learn.	Learners become ready to learn when they are told or according to their age.	Learners become ready to learn when they experience a need to know or do something.
Orientation to learning.	Learners are usually subject-centered.	Learners are life-centered, task-centered or problem centered.
Motivation to learn.	Learners are motivated by external pressures from parents and teachers.	Learners are motivated by self-esteem, recognition, self-actualization, and external motivators.
Role of the learner.	Learner is passive	Learner is active
Role of the Educator.	Responsible for teaching the content, content source.	Responsible for facilitating learning, resource provider.
Program design.	Focus on content of learning.	Focus on learning process.

A Rationale for Differentiated In-Service Education

Most principles of Andragogy emphasize that we should consider the participant, (his/her experiences, readiness, orientation, motivation) the role of the educator, and the learner, and design for

the purpose of designing in-service education programs. Consequently, it seems appropriate to define inservice education before presenting a rationale for a differentiated approach.

While some broad conceptualizations of in-service education can be found in the literature; the following working definition will be used. As a planned program of learning experiences based on a needs assessment, in-service education is generally sponsored by a particular school system, and is aimed at developing new competencies and understandings in individuals assigned to teaching positions (Ovando, 1981). The focus of inservice education is on the individual teacher who usually has some experience and a professional background, in addition to specific goals for professional development which make him/her different from others.

There are several reasons why a differentiated approach seems desirable. [Teachers are different in many ways, they may be at different development stages, they have different experiences and educational backgrounds and they have different learning styles and philosophies.] Glatthorn indicates that four stages of development can be identified: 1) Survival, first year (Teachers' primary concerns are related to subject content, belonging to the group, discipline, grading, lesson planning, parents, and getting good ratings); 2) Adjustment, second to fourth year (Teachers' primary concern are pupils as individuals, individual pupil's problems, pupil self concept, and expressing self as a teacher); 3) Maturity, thrid to twentieth year (Teachers are concerned with creative ways to teach, own well being and not getting stale); and 4) Settling down, fifteenth year to end of career (Teachers are designing exciting learning experiences for special pupils).

Teachers are at different dimensions of development as suggested by Leithwood (1990, p.73:). He identifies the following:
Psychological Development: Teachers can be at any of the following stages: 1) Self-protective, premoral, unilateral dependence; 2)Conformist, moral, negative, independence; 3) Conscientious, moral,

conditional dependence; and 4) Autonomous, interdependent, principled, integrated.

Development of professional expertise: Teachers can be at any of the following stages: 1) Developing survival skills; 2)Becoming competent in the basic skills of instruction; 3) Expanding one's instructional flexibility; 4) Acquiring instructional expertise; 5) Contributing to the growth of colleagues' instructional expertise; and 6) Participating in broad range of educational decisions at all levels.

Career cycle development: Teachers can be at any of the following stages: 1) Launching the career; 2) Stabilizing, developing mature commitment; 3) New challenges and concerns; 4) Reaching a professional plateau; and 5) Preparing for retirement: focusing. Cosequently inservice programs need to respond to these developmental stages of teachers.

Teachers may also be different because of the "influence of individual traits, environmental characteristics, timing of life events, an their personal mentor-discipline relationship" as suggested by Glickman (1990). Consequently, their development is impacted by life transition periods which in turn effect their levels of interest, commitment and professional growth needs and learning styles. Among others, Houle (1961) reported that teachers can have different learning styles depending on their own values; thus, they can be goal oriented (use learning to achieve very specific objectives); activity oriented (value the learning activity itself) and learning oriented (value learning for its own benefit). This illustrates the fact that learning is an individual process. As mentioned earlier, it takes place in individual ways with unique sequence, timing, process, and resources. This in turn suggests that there is a need for an inservice approach with the potential to meet the diverse professional individual needs of teachers as well as to foster professional collaboration by providing opportunities to individualize in-service education not only in content but also in depth and pace of study.

Individualized Learning Modules

As a format that provides ways to respond to the characteristics of adult learners and the diverse needs of teachers in particular, the Individualized Learning Modules -ILM- format is competency based. This format was originally developed and field tested by Lloyd E. Mc Cleary at the Reasearch and Development Laboratory of the Educational Administration Department of the University of Utah for preparation program purposes. It has been used in a number of American universities and in projects of in-service education of supervisors in Bolivia and in faculty development efforts in Mexico. Reports from these experiences reveal that the ILM approach is a viable alternative (Ovando, 1984) to respond to teachers' individual needs and that it has a promising design for in-service education programs.

The ILM format is based on the proposition that not everybody needs everything at the same time. Furthermore it is based on the assumption that teachers are professionals. As Boud and Prosser (1984) argue, teachers are self-directing and self-motivating; in other words they are capable of determining clear objectives for their in-service experiences, they can design a personal program of development drawing upon all the necessary means to achieve their objectives, and they are capable of assessing the performance of tasks they have established and judge the extent to which their objectives have been met.

As a self contained learning package, each learning module addresses specific topics and it is designed to achieve one or more independent objectives. The Individualized Learning Modules format includes a self-assessment of needs, content delivery, sources for further investigation, individual study guide, collaborative group learning guide, performance products suggestions, log form and an evaluation form (ILM Manual, 1974). These are arranged in the following sequence:

1. Self-assessment of needs. Participants identify the competency(ies) which they need to develop or improve so that they may select the most appropriate resources and learning activities.

2. Content delivery. The presentation of content may be achieved by means of a tape-flip chart presentation, a computer package, an interactive video system or other simpler means such as reading or attending a seminar.

3. Sources for further investigation. Participants are provided a list of relevant materials from which they may select one or two resources in order to expand content previously presented, to verify some information or to view the content from different perspectives.

4. Individual study guide. Provides participants with a set of reflective questions for the purpose of guiding concentration on specific critical attributes, concepts and generalizations of the specific content.

5. Collaborative group learning guide. Provides suggestions of activities to be carried out by a group of colleagues interested in sharing information, experiences and materials around a topic of common interest. In addition, this group arrangement fosters human interaction so that teachers can develop interpersonal skills and become aware of their own emotional reactions. As Newfeld and Barrows (1984) content, it provides opportunities for teachers to learn how to receive criticism and, in turn, to offer constructive criticism. Furthermore, participants may be provided with support groups of fellow learners, more experienced learners and supportive colleagues.

6. Performance products. Consists of a set of suggestions that facilitate participants' designing and execution of projects or activities which can illustrate their ability to apply the specific content of a learning module.

7. Log form. Provides participants with a monitoring system that allows them to follow their own progress through the learning module.

8. Evaluation form. Provides participants with an evaluation guide with which to rate the effectiveness of all components in each individualized learning module.

Participants are provided with an arrangement that will allow them to select, from a set of learning modules considered to be necessary for their on the job performance, those modules/units that will meet their individual needs. Individualization is a key feature of a differentiated approach; therefore, it should be incorporated into each learning module in at least four ways: content, pacing, depth of study (ILM Manual, 1984) as well as the nature of the competency to be developed.

First. Content is variable in terms of the learning module selected for study, the resources participants wish to use, and the learning activities they choose to perform.

Second. Pacing refers to the way in which participants distribute their time for competency development purposes. It also relates to scheduling of learning activities to be carried out individually or by the collaborative group.

Third. Depth of study is determined by the need of the participant to attain a particular competency at any of the following levels: a) Familiarity (Able to intelligently converse about the content); b) Understanding (Able to teach a concept to someone else); and c) Application (Able to apply the content). Participants may proceed through the sequence of suggested learning activities contained in each module until they have reached the desired depth of study.

Fourth Individualization may be accomplished by means of the nature of the competency selected for development. Competency refers to the presence of knowledge, attitudes and skills which qualify a person to perform a task or assume a defined role (Ovando, 1981). Participants may decide the nature of the competency by concentrating on the knowledge dimension, the attitudes or interaction dimension or the skill dimension of a competency.

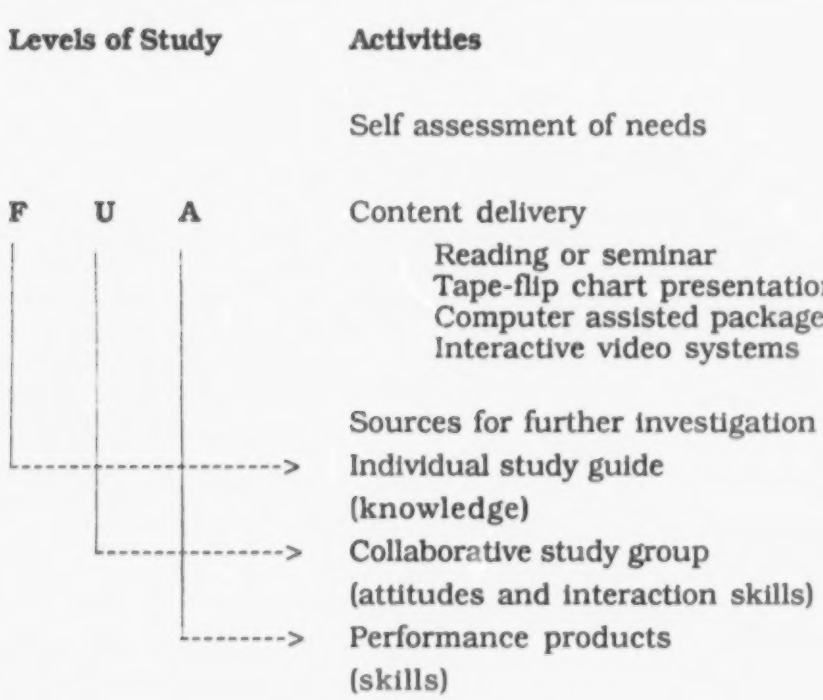
Participants may continue as far as they wish to go in any activity. For instance, for a familiarity level, they might proceed through the activities into that of individual study guide. For attaining an understanding level, they might continue through some of the collaborative learning activities, and to reach application level they will need to proceed through the completion of a performance product or products. All learning modules should be designed up to and including the application level (ILM, Manual, 1974). The sequence and components of this format are illustrated in the following figure1.

The use of the ILM approach requires that instructors or trainers assume a different attitude and role as they act as facilitators of in-service education. They are expected to act as resource people who lead participants through the process as well as provide them with support and resources. Contact with facilitator should occur from start to finish, throughout the total program or as needed by those involved. Participants have opportunities to request clarification of key points as well as to receive constructive feedback that will facilitate the development of their competencies.

As illustrated above, in any given module, participants may select several content delivery resources depending on their learning styles, preferences and availability. This freedom of choice helps to "capture the interest of the participants as they go about establishing their own pace" (Green, 1984) and achieving their own objectives in a differentiated program.

Figure 1

Competency Based Individualized Learning Modules



Concluding Statement

A retrospective analysis of the characteristics of teachers as adult learners, some of the principles of Andragogy, the diversity of teachers' needs; and the features, components, and process of the Individualized Learning Modules suggests that this format has potential to achieve quality differentiated in-service education. The literature offers an account of several programs that have successfully incorporated all or part of this individualized approach. Therefore, it can be concluded that the ILM format is a promising approach for the design of inservice education programs, faculty development programs at college level, and higher education programs.

The design of an in-service education program using well defined learning modules assures flexibility and provides a means for responding to the experienced teacher needs, who may skip familiar information and devote more time to new areas or areas of specific interest. Similarly, beginning teachers may need all the information and practice required to achieve professional competence. In addition, a program designed following the ILM format may provide the mechanism with which to respond to the demand that in-service education programs take place at a time, place, and pace most convenient to participating teachers.

Finally, it is thought that by providing differentiated in-service education, educational systems might be in a position to assure that teachers achieve professional development in a "climate of mutual respect, collaborativeness, mutual trust and support, opennes and authenticity as well as pleasure and humaness" (Knolwes, 1984). This type of climate fosters productivity and satisfaction, ultimately impacting students' academic success.

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